The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method of employing a rotary machine to produce rotary power, comprising:

igniting intake products to generate an increased pressure caused by formation of combustive products;

directing the increased pressure into a rotatable expansion ring;

rotating the expansion ring a distance proportional to the increased pressure;

and

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exhausting the combustive products.

2. The method of Claim 1, wherein the intake products are introduced at or above ambient pressure.

- 3. The method of Claim 1, wherein a power stroke volume is greater than or equal to an intake chamber volume.
- 4. The method of Claim 3, wherein the power stroke volume is about 3 to 4 times greater than the intake chamber volume.
- 5. The method of Claim 1, wherein the exhaust stroke pressure is about ambient pressure or exceeds ambient pressure.
- 6. The method of Claim 1, wherein the thermal cycle is implemented by an internal combustion engine or an external combustion engine.
- 7. The method of Claim 1, wherein the rotary machine is implemented by a shaped charge or detonation cycle combustion engine.
- 8. A method of employing a thermal cycle in a rotary machine to produce rotary power, comprising:

introducing intake products into a space without compressing in an intake stroke;

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igniting the intake products to generate an increased pressure caused by formation of combustive products in a power stroke;

directing the increased pressure into a rotatable expansion ring;

rotating the expansion ring a distance proportional to the increased pressure;

and

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exhausting the combustive products in an exhaust stroke.

- 9. The method of Claim 8, wherein the intake products are introduced at about ambient pressure or exceeding ambient pressure.
- 10. The method of Claim 8, wherein the power stroke volume is about equal or greater than the intake stroke volume.
- 11. The method of Claim 9, wherein the power stroke volume is about 3 to 4 times greater than the intake chamber volume.
- 12. The method of Claim 8, wherein the thermal cycle is implemented by an internal combustion engine or an external combustion engine.
- 13. The method of Claim 8, wherein the rotary machine is implemented by a shaped charge or detonation cycle combustion engine.
- 14. A method of employing a thermal cycle in a rotary machine to produce rotary power, comprising:

introducing intake products into a space without compressing in an intake stroke;

igniting the intake products to generate an increased pressure caused by formation of combustive products in a power stroke;

directing the increased pressure into a rotatable expansion ring to cause movement of the expansion ring in proportion to the increased pressure;

rotating the expansion ring a distance proportional to the increased pressure; and

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exhausting the combustive products in an exhaust stroke.

- 15. The method of Claim 14, wherein the intake products are introduced at about ambient pressure or exceeding ambient pressure.
- 16. The method of Claim 14, wherein the power stroke volume is about equal or greater than the intake stroke volume.
- 17. The method of Claim 16, wherein the power stroke volume is about 3 to 4 times greater than the intake chamber volume.
- 18. The method of Claim 14, wherein the exhaust stroke pressure is about ambient pressure or exceeds ambient pressure.
- 19. The method of Claim 14, wherein the thermal cycle is implemented by an internal combustion engine or an external combustion engine.
- 20. The method of Claim 14, wherein the rotary machine is implemented by a shaped charge or detonation cycle combustion engine.

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